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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,204	02/26/2002	Takuro Sekiya	220103US2	8688
22850	7590	01/18/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			MENEFEE, JAMES A	
			ART UNIT	PAPER NUMBER
			2828	

DATE MAILED: 01/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/085,204

Applicant(s)

SEKIYA ET AL

Examiner

James A. Meneffee

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-62 is/are pending in the application.
- 4a) Of the above claim(s) 9-17, 24-36, 38, 39, 41, 42, 44, 45, 47, 48 and 50-62 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5, 18-23, 37, 40, 43, 46 and 49 is/are allowed.
- 6) ☒ Claim(s) 6-8 is/are rejected.
- 7) ☒ Claim(s) 6-8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/20/2004 has been entered. Claims 1, 6, 18, 24, 37-38, 40-41, 43-44, 46-47, and 49-50 are amended. Claims 1-62 are pending.

Election/Restrictions

Claims 9-17, 24-36, 38-39, 41-42, 44-45, 47-48, and 50-62 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 8/29/2003.

Note claim 1 is allowed below. Claim 1 is generic to claims 18-23, 37, 40, 43, 46, and 49, and all their dependent claims. Therefore these claims are now allowed.

The additional limitations regarding uniform compositional gradation layer thickness would make claim 6 allowable over Ohiso, similarly to claim 1, subject to the issues presented below. If claim 6 is remedied to fix the problems and thus be allowable, applicant is reminded to also amend claims 24, 38, 41, 44, 47, and 50 so that claim 6 is still generic to these claims. If claim 6 is allowed then these claims and any dependent claims will be allowed. But at present, claim 6 is not allowed and therefore these claims remain withdrawn.

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If claims 1 and 6 become allowable, claims 9-17, 28-36, 39, 42, 45, 48, and 51-62 will be cancelled. Claims 1 and 6 are not generic to these claims. These claims are withdrawn as non-elected without traverse.

Claims 1-8, 18-23, 37, 40, 43, 46, and 49 will now be treated on the merits.

Specification

The disclosure is objected to because of the following informalities: On the final line of page 85, equation (1) should read: " $t = 0.05\lambda - 15$ ". See the explanation below in the 112 rejection. Appropriate correction is required.

Claim Objections

Claims 6-8 are objected to because of the following informalities:

Claim 6 includes the phrase "substantially uniform as a compositional uniform as a compositional gradation layer thickness increase." (emphasis added). The above underlined terms appear to have been added by mistake and should be deleted, as the phrase doesn't make sense to the examiner with these words. The remaining added portion, without the above underlined terms, places the subject matter in line with what is claimed in claim 1. If the examiner is mistaken then further clarification should be added explaining why this is not a typographical error. Claims 7-8 are objected as depending on claim 6 and thus including these informalities.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 6-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The examiner reiterates the arguments from the Advisory Action. The equation in claim 6 does not properly convey the intended meaning of the applicant's invention. Table 2 on page 85 clearly shows the applicant's intention is for 1.1 μm wavelength to correspond to 40 nm thickness, for 1.3 μm to correspond to 50 nm, and so on. Page 85 lines 20-21 clearly state that the thickness and wavelength are to be in nanometers. This is now correct in the claim. Converting to nanometers, the wavelengths of Table 2 become 1100 nm, 1300 nm, 1500 nm, and 1700 nm. Plugging into the equation gives:

$$50 \times 1100 - 15 = 54985 \text{ nm thickness}$$

$$50 \times 1300 - 15 = 64985 \text{ nm thickness}$$

$$50 \times 1500 - 15 = 74985 \text{ nm thickness}$$

$$50 \times 1700 - 15 = 84985 \text{ nm thickness}$$

These thicknesses are one thousand times the intended thicknesses listed in Table 2. This result is clearly inconsistent with the disclosure. Thus it is proposed that to correctly claim the invention applicant must change the equation to:

$$t = 0.05 \lambda - 15$$

If the equation is changed as such, then 1.1 μm wavelength will correspond to 40 nm thickness, 1.3 μm wavelength will correspond to 50 nm thickness, and so on, and thus the result of the equation would properly correspond to the disclosure as in Table 2.

This equation should be changed in both the claims and in the specification. This will not be deemed new matter because it is a clarification of a clear mathematical error; one skilled in the art would recognize by plugging in the numbers of Table 2 that the equation is just incorrect.

If the applicant still insists that the equation is to be as currently claimed and as in specification page 85, then applicant is requested to point out support in the specification for this. The examiner has found no support in the specification other than the equation on page 85 that is shown above to be incorrect. There is no disclosure that the thicknesses should be on the order of 55000 nm. In order for the equation to provide for thicknesses in line with what is disclosed, i.e. on the order of 55 nm, the equation in both the specification and the claims should be changed to that suggested above.

Allowable Subject Matter

Claims 1-5, 18-23, 37, 40, 43, 46, and 49 are allowed. Reasons for allowance for claims 1-5 were given in the action mailed 7/28/2004. Claim 1 is generic; therefore the reasons for allowance are the same.

Note that claim 6 includes the allowable subject matter and would be allowable for the same reasons if the above problems were corrected. If so, claims 6-8, 24-27, 38, 41, 44, 47, and 50 would be allowed. Until that time, claims 6-8 remain rejected and claims 24-27, 38, 41, 44, 47, and 50 remain withdrawn from consideration.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Menefee whose telephone number is (571) 272-1944.

The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MinSun Harvey can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



James Menefee
January 10, 2005
JM